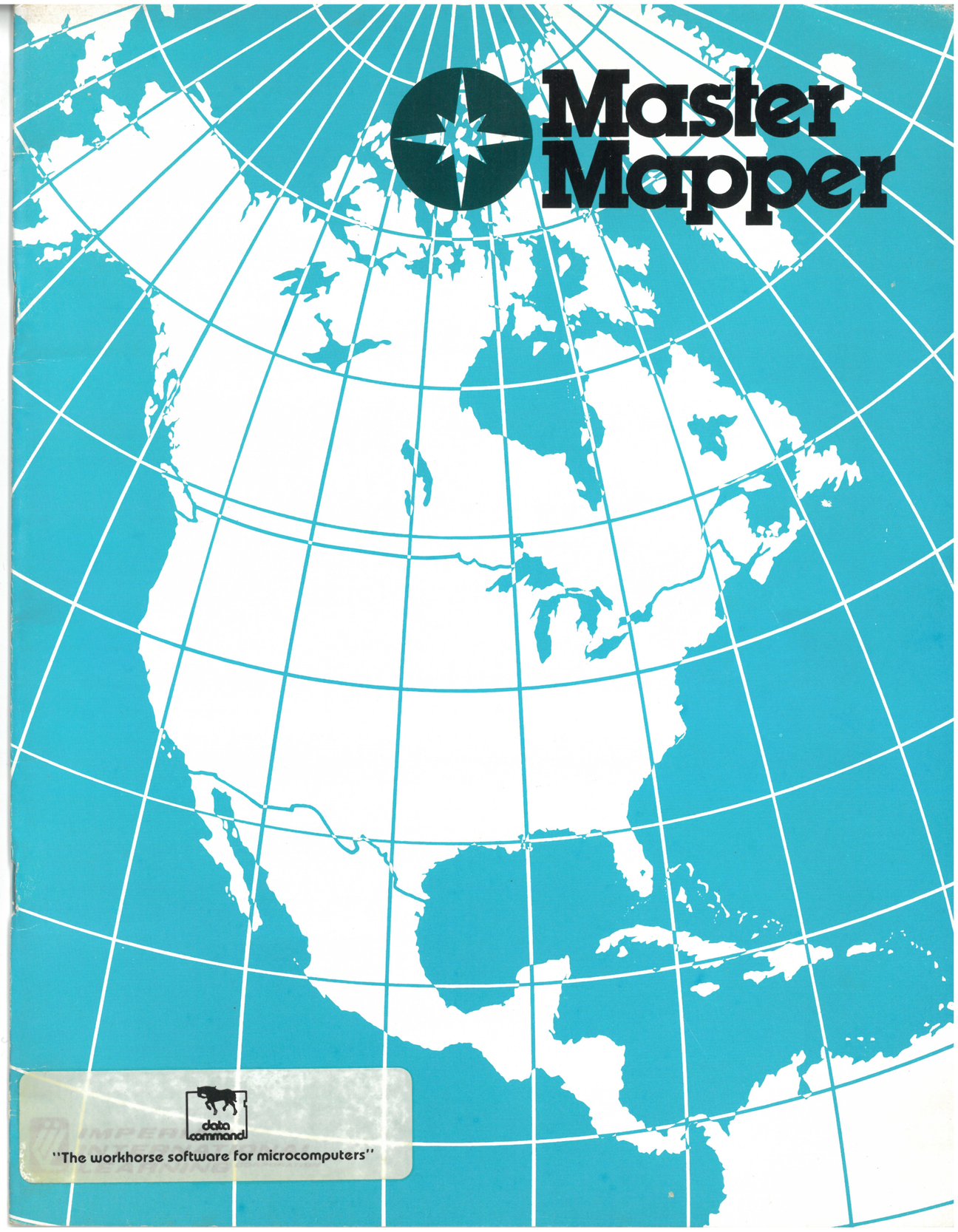

Master
Mapper
data
command
"The workhorse software for microcomputers"

# MASTER MAPPER

by

Bob Gergen

**GUARANTEE**

Your satisfaction with this program is guaranteed. If you are dissatisfied for any reason, you may return it for a full refund up to six months from date of purchase. Return the program to the company from whom it was purchased. Please enclose a brief statement of your reasons for returning.

© 1987 Imperial International Learning Corporation

ISBN 0-8481-0349-1

# TABLE OF CONTENTS

Introduction . . . . . 3

Learning Objectives . . . . . 3

Overview of ***Master Mapper*** . . . . . 4

- Disks
- Worksheets
- Teacher's Guide

Integrating ***Master Mapper*** into the Curriculum . . . . . 5

***Master Mapper*** Disks 1 and 2 . . . . . 6

Session 1 Compass Directions
2 Compass Rose
3 Using the Compass Rose
4 Latitude
5 Longitude
6 Latitude and Longitude
7 Scale
8 Symbols

Record Keeper

***Master Mapper***'s Learning Games . . . . . 15

- Overview
- All Terrain Game
- Roadblock!

Correlating Map Skills to the Curriculum . . . . . 17

Answers to Worksheet Exercises . . . . . 21

The Loading Procedure . . . . . 25



# INTRODUCTION

Imagine the inconvenience—and chaos—that would result if maps suddenly disappeared. No more "Regions of the World" sets at the front of the classroom, no more diagrams of Sherman's March to the Sea in American History books, no more weather maps in the daily newspapers. Maps enable us to visualize the components of our world, to zoom in and out of a particular area as we need to, to find our way around, to compare, to contrast, to conclude.

As pictures, some maps are worth much more than a thousand words; in fact, it would be virtually impossible to verbalize all that they so compactly display. Maps help us to see the juxtaposition of nations and of cities, the distribution of natural resources, the effect of geography on history, infinitely more. Thus, the student who cannot understand maps is missing out on much more than just what the maps "say." As in any subject, students will not advance to the comprehension stage before they have mastered the "basics," but they won't truly understand the basics until they have the chance to use them in meaningful situations.

*Master Mapper* is a four-disk microcomputer program that helps students develop, then apply, map reading skills in a variety of discovery and problem-solving situations. Eight sessions on Disks 1 and 2 provide tutorials and practice in basic map reading skills. The program's two learning games, *All Terrain Game* and *Roadblock!*, on Disks 3 and 4, give students decision making, estimating, and judgment activities in challenging and entertaining formats. Five accompanying black-line masters provide worksheets with exercises which help students apply higher-order thinking skills in conjunction with the map activities. This teacher's guide offers enrichment activities that will help you tie map reading to content areas and recommends a number of extension ideas that will be of particular interest to students. The worksheets and extension activities will assist students in applying their map skills to the study of Geography, Social Studies, Cultural Studies, World History, and Earth Science.

*Master Mapper* is an interactive program which will spark students' interest. All the data used in the program's learning activities is randomized, allowing students to participate any number of times without replication for greater understanding. The record keeping system reports scores to students at the end of each session and also stores them on disk for you to check later.

With the ever-growing need to understand our world comes the responsibility to use the best means at our disposal to develop our children's ability to perceive and interpret. *Master Mapper* blends the special powers of the computer with carefully correlated written work to teach the very practical and necessary skills of map reading and interpretation.

# LEARNING OBJECTIVES

*Master Mapper* is intended as a Social Studies supplement for students in grades 3 through 7. The components of the program, the disks, the worksheets, and the teacher's guide are designed to be integrated to enhance students' mastery of map reading skills.

After using *Master Mapper* students will be able to:

- use cardinal and intermediate directions
- use a compass to determine direction
- show mastery of the concepts of map distance and symbolization
- use latitude and longitude to locate points
- use latitude and longitude to determine distance
- find points on a globe or flat projection map using grid coordinates
- locate specific points on several different kinds of maps
- use map reading terminology
- interpret map legends
- use map symbols and legends to determine distance and direction between two points

## OVERVIEW OF *Master Mapper*

*Master Mapper* is a menu driven program which students can easily operate without teacher assistance. Students simply select one of eight sessions or either of the two games and follow the directions which appear on the screen. Scorekeeping on Disks 1 and 2 is done automatically and the results are shown to the students following the activity. *Master Mapper* grades the first response the student enters.

The record keeping system allows the teacher to track the progress of up to 50 students at a time. To access the record of student scores, simply type SCORES in place of a student's name at the start of any session on Disk 1 or 2. Disk 1 stores 50 names and scores for Sessions 1 through 4; Disk 2 stores 50 names and scores for Sessions 5 through 8. Scores are entered as number correct/number attempted, for easy conversion to percentages and letter grades. Directions for printing scores are found on page 13 of this guide.

Disks 1 and 2 introduce map vocabulary and critical map reading concepts, using animated illustrations where possible to enhance understanding. Both instruction and practice are accomplished as students interact with the computer. Following is a brief summary of the eight sessions on Disks 1 and 2.

### Disks

*Disk 1*

Session 1 **Compass Directions**—learning the names of the 4 major points and 12 subpoints of the compass

Session 2 **Compass Rose**—constructing a compass rose on screen using the names of the compass points

Session 3 **Using the Compass Rose**—determining the direction of one point relative to a reference point

Session 4 **Latitude**—defining and illustrating lines of latitude: locating specific N and S latitudes



*Disk 2*

Session 5 **Longitude**—defining and illustrating lines of longitude; locating specific E and W longitudes

Session 6 **Latitude and Longitude**—using the grid system to locate specific points

Session 7 **Scale**—defining scale; using scale to estimate times, rates, and distances on a map

Session 8 **Symbols**—using symbols to decipher a given map; constructing a map on screen using student-selected symbols

Disks 3 and 4 each have a learning game which rewards accurate map reading and careful decision making. In the *All Terrain Game* on Disk 3, each student tries to achieve an optimal score by navigating a course through varied terrains to a predetermined destination. In *Roadblock!* on Disk 4, two students vie to be first to reach a particular destination on a world map. Detailed explanations of the games are found on page 15.

### Worksheets

*Master Mapper* is accompanied by a set of five blackline masters which can be photocopied to produce worksheets which correlate to the disk activities. Four of the worksheets tie map reading to the content areas of Geography, Earth Science, and World History. Worksheet activities fall into such categories as *People and Places, Borders and Boundaries, Bodies of Water, Map Language,* and *World Neighbors.* These four worksheets are intended to be done by students who have completed the eight sessions of Disks 1 and 2. A fifth worksheet is included as an aid to analyzing and correcting routes selected in the *All Terrain Game.* By making a written record of their moves as they play this game, students can analyze their plan and improve their performance when they replay the game.

### Teacher's Guide

This teacher's guide is a valuable component of *Master Mapper.* It suggests ways you can integrate the program into regular classroom instruction, and ties its basic concepts to a number of curriculum areas. (Remember that the greatest understanding occurs when discrete skills are transferred into a variety of learning situations.) *Master Mapper* offers this variety, and the guide offers concrete suggestions for using the program in your particular situation.

## INTEGRATING *Master Mapper* INTO THE CURRICULUM

*Master Mapper* is intended for use by third through seventh graders. With this range of difficulty, some of the material will be new to third graders, some of it familiar to seventh graders. Use the session summaries beginning on page 6 to

assist you in assigning lessons to students at either end of this grade level range. The program defines terms which may be new to students as they are introduced. It is suggested that you tell younger children that they will encounter some words unfamiliar to them, such as "arc," "meridian," "latitude and longitude." This will prepare them when they encounter new words and ideas to follow the explanations given in the program.

*Master Mapper* disks give you a self-contained unit on the basics of map reading, with testing and grading built in. The disks offer both skill development and skill application in a variety of situations, as students progress through the activities in the eight learning sessions, then encounter skills application and problem-solving activities in the two interactive games. The accompanying worksheets and enrichment exercises suggested in this guide will extend the basic *Master Mapper* concepts into other content areas and encourage the development of higher-order thinking skills.

*Master Mapper* is well suited for use both in classrooms with computers and in a computer lab. The eight sessions will each take less than 15 minutes to complete by most students, making scheduling computer time more convenient for you. Most students should benefit by beginning with Session 1, then continuing sequentially through both disks. (If they happen to forget which session they came to work on, a quick check of the record keeper will show which sessions they have completed. See page 12 for details on using the recordkeeper.) Students can work in pairs if computer time is at a premium. If so, both students' first names can be entered and each record will show their joint effort.

Most students will want to spend 20 to 30 minutes on each playing of the program's two learning games. The games can also be played in pairs or by two teams of two. No scores are kept on disk for the games.

The *Master Mapper* worksheets can be assigned either as seatwork or homework. The enrichment lessons offered in this guide can be introduced in class, then finished later as regular assignments by students.

## *Master Mapper* DISKS 1 AND 2

The eight sessions on Disks 1 and 2 of *Master Mapper* use text, graphics, animation, and interactive routines to help students learn and practice using such concepts as direction, compass points, latitude and longitude, grid systems, distance, and symbols.

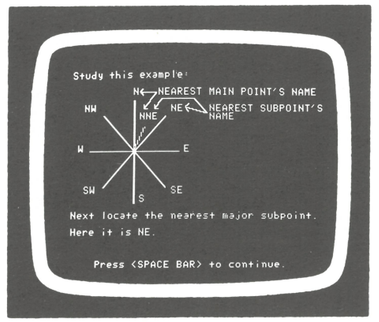
This section of the teacher's guide shows *Master Mapper*'s scope and sequence, the activities students encounter as they work through the program, and the expected outcomes of each learning session.

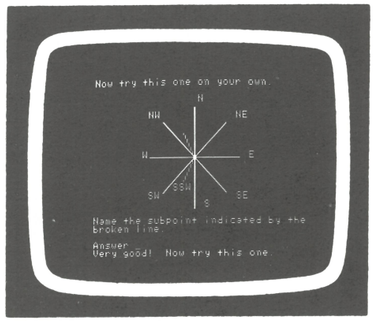


*Disk 1*

Session 1 **Compass Directions**

Students will name and locate the compass' 4 main points and 12 subpoints.

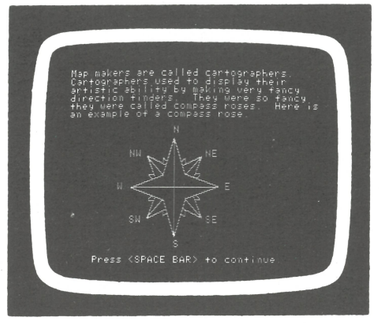


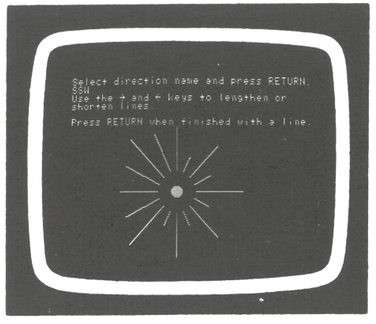




Students are asked to name these points in random order. Any mistakes are immediately corrected to help emphasize that a point's relationship to those around it helps to identify that point. Students are given several opportunities to correctly identify each compass heading.

Session 2 **Compass Rose**

Students use color and form, and their knowledge of compass points to create a compass rose on the computer screen.


Map makers are called cartographers.
Cartographers used to display their artistic ability by making very fancy direction finders. They were so fancy they were called compass roses. Here is an example of a compass rose.
N
NW
NE
W
E
SW
SE
S
Press <SPACE BAR> to continue

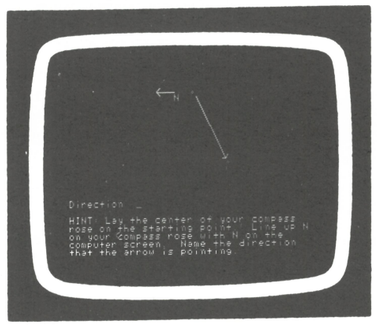

Select direction name and press RETURN.
SSW
Use the → and ← keys to lengthen or shorten lines.
Press RETURN when finished with a line.

This activity allows the practical application of the knowledge gained in Session 1, and leads into the direction-finding activities in Session 3.

**NOTE:** Students will need to use the compass rose created here for Session 3. They will, therefore, need a set of colored pencils and a sheet of graph paper to accurately reproduce on paper the compass rose they create on the screen during this session.

Session 3 **Using the Compass Rose**

Students will determine the direction of various points using the north arrow as a reference point. The north arrow is not in the location at which it would normally appear on the map. It varies as it would be on a compass face, depending on which direction you were facing. Sense of direction can be acquired; it is a matter of orienting one's self using a reference point.


N
Direction _
HINT: Lay the center of your compass rose on the part of the line up N on your compass rose with N on the computer screen. Name the direction that the arrow is pointing.

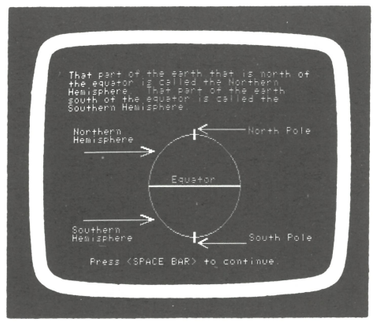


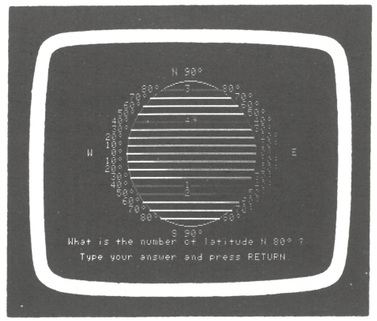

Until students acquire their "mental" compass roses, they may use the copy of the one they made in Session 2. During the activity they may ask the computer for a hint which reminds them how to use the compass rose to determine direction. If they answer incorrectly, a simplified compass rose is superimposed on the diagram to show the correct procedure and answer.

Session 4 **Latitude**

Students encounter the terms "sphere," "arc," "degree," "equator," "hemisphere," "latitude," "northern and southern hemispheres," "north and south latitudes," and "parallels."



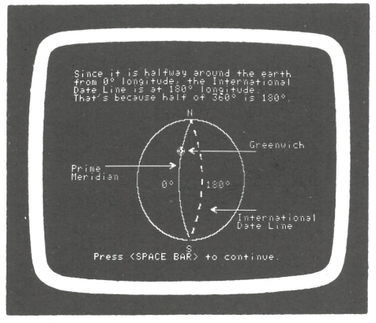

That part of the earth that is north of the equator is called the Northern Hemisphere. That part of the earth south of the equator is called the Southern Hemisphere.
Northern Hemisphere
North Pole
Equator
Southern Hemisphere
South Pole
Press <SPACE BAR> to continue.

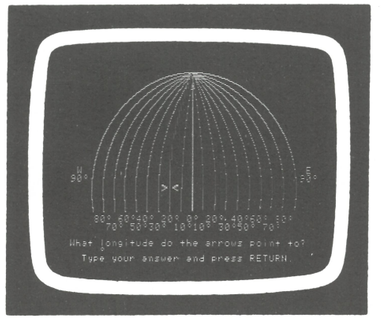



They are shown lines of latitude and asked to identify them by name. Conversely, given names of various lines of latitude, they indicate their location on the globe.

Session 5 **Longitude**

Terms such as "meridians," "prime meridian," "International Date Line," and "longitude" are defined and illustrated.

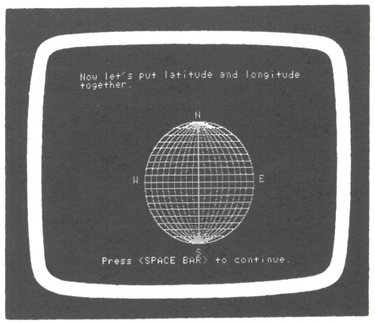

Since it is halfway around the earth from 0° longitude, the International Date Line is at 180° longitude. That's because half of 360° is 180°.
Greenwich
Prime Meridian
0°
180°
International Date Line
Press <SPACE BAR> to continue.

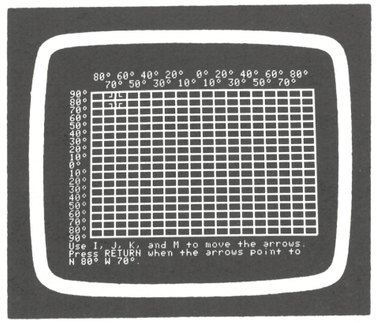


Students use their knowledge to name lines of longitude and locate particular lines given their distance and direction from the Prime Meridian. In this session, students work with East and West longitudes up to 90°. In later sessions they encounter longitudes up to 180°.

Session 6 **Latitude and Longitude**

Students learn that imaginary lines of latitude and longitude compose the earth's grid system.



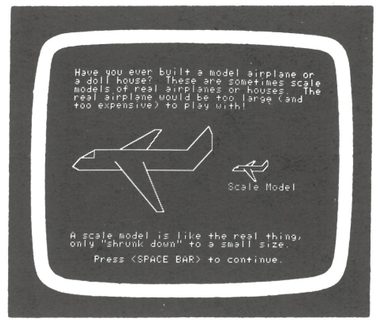



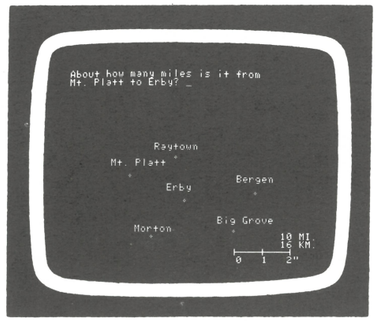

They locate exact points on the earth's surface using latitude and longitude. They draw a picture on the screen by locating specific points on the grid.

Session 7 **Scale**

Students learn the meaning of a map scale and use scales to estimate times, rates, and distances on an area map.



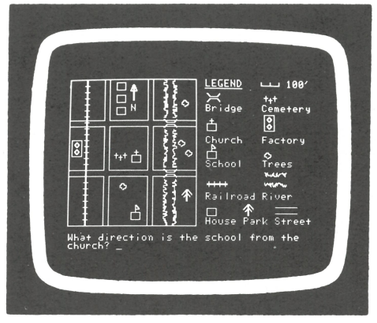

Have you ever built a model airplane or a doll house? These are sometimes scale models of real airplanes or houses. The real airplane would be too large (and too expensive) to play with!
Scale Model
A scale model is like the real thing, only "shrunk down" to a small size.
Press <SPACE BAR> to continue.

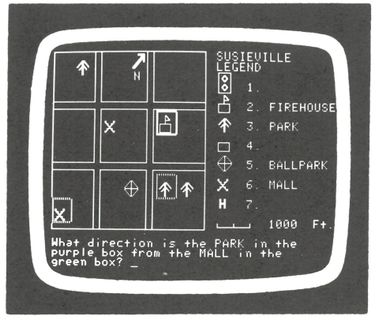



**NOTE:** The scale on the screen is marked 1". This will not be a true one inch on all computer screens, but measurements will be proportionately correct. Students should base their estimates on the scale given on the screen and not by taking measurements in inches on the screen with a ruler.

Session 8 **Symbols**

Students use symbols to decipher a map and determine distance and direction between the objects displayed.



Students are also given the opportunity to arrange their own maps on screen, selecting symbols to represent particular objects, and then answering computer-generated questions about their maps.

## The Record Keeping System

The record keeping system for *Master Mapper* lets you quickly check on the progress of any or all students who have used the *Master Mapper* session disks. Disk 1 shows student composite scores received for Sessions 1 through 4; Disk 2, scores from Sessions 5 through 8.

To access the record keeper, insert the proper disk into Drive 1 and turn on the computer and the monitor. Type SCORES instead of entering a student name. This menu will appear:

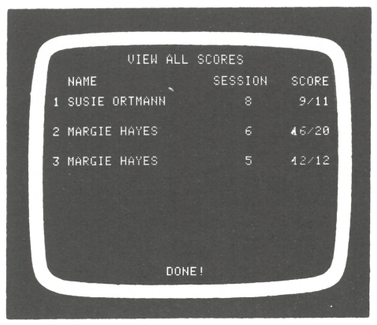
0 Quit
1 View All Scores
2 Print All Scores
3 View a Student's Score
4 Print a Student's Score
5 Clear All Scores From Disk

### 0 Quit

You may press "0" when you finish checking the record keeper. Typing "0" will bring up the beginning screen, at which time a student inputs his name. A student may thus begin a session without restarting the program. You may also remove the disk and turn off the computer at this point.

### 1 View All Scores

The record keeping system tracks the performance of the 50 most recently entered students. Thus, entering #51 will cause entry #1 to be eliminated, and so on. For this reason check the record keeper periodically to be sure you have the data you want to keep on your students before it is lost. The computer will remind you when the file is almost full by flashing student record numbers 45-50. The record keeper shows which session each student has done and the number correct/number attempted for each.






By pressing RETURN you advance to the next group of names, continuing on until you have viewed the entire file of scores.

### 2 Print All Scores

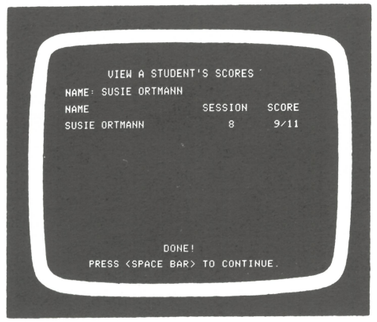
This option lets you make a hard copy of student results. You will need to enter the slot number of your printer. In most Apple computers, the printer circuit is slot 1. However, if you are not sure, please check the slot number of your printer before you choose to print scores.

**MASTER MAPPER**
**Print All Scores**

| NAME | SESSION | SCORE |
|---|---|---|
| 1 SUSIE ORTMANN | 8 | 9/11 |
| 2 MARGIE HAYES | 6 | 16/20 |
| 3 MARGIE HAYES | 5 | 12/12 |

### 3 View a Student's Scores

By typing in a student's name, you will be shown the results of every session that student has done. Be sure to enter the name exactly as the student has entered it while using the program. (Students might also be reminded to enter their names the same way each time.)




### 4 Print a Student's Scores

This option prints an individual student's record. You need to enter the slot number of your printer.

**MASTER MAPPER**
**Print A Student's Score**

| NAME | SESSION | SCORE |
|---|---|---|
| MARGIE HAYES | 6 | 16/20 |
| | 5 | 12/12 |

### 5 Clear All Scores From Disk

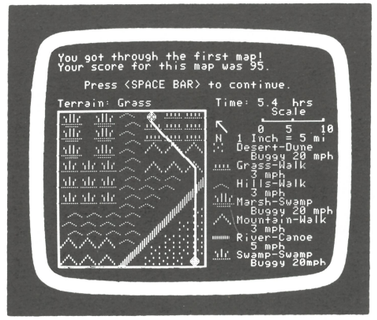
This option lets you clear all student names and results from the record keeper. You might use this when a new class is scheduled to begin using *Master Mapper,* or after you have made a hard copy of the present scores and don't wish to have them repeated in the next hard copy.



# *Master Mapper's* LEARNING GAMES

*Master Mapper*'s two games, the *All Terrain Game* and *Roadblock!* were designed specifically to fit with the learning objectives of the *Master Mapper* program. Whereas the session disks give instruction followed by immediate practice and application, the *All Terrain Game* and *Roadblock!* provide open-ended situations in which students synthesize the concepts taught during the sessions and make decisions to produce a favorable outcome. Students will find the games enjoyable, challenging, and engrossing. Since the games are replayable, students may choose to do some experimenting in order to learn how to play each game. (Trial-and-error itself is a good problem-solving method.) Brief instructions are included on disk, with a more complete explanation given here in case students have difficulty getting started at the computer.

In the *All Terrain Game,* a terrain map, random distance scale, and transportation guide are displayed on the screen. Students use this information to plan the quickest route across each terrain map from the dot at the bottom of the map to the dot at the top.



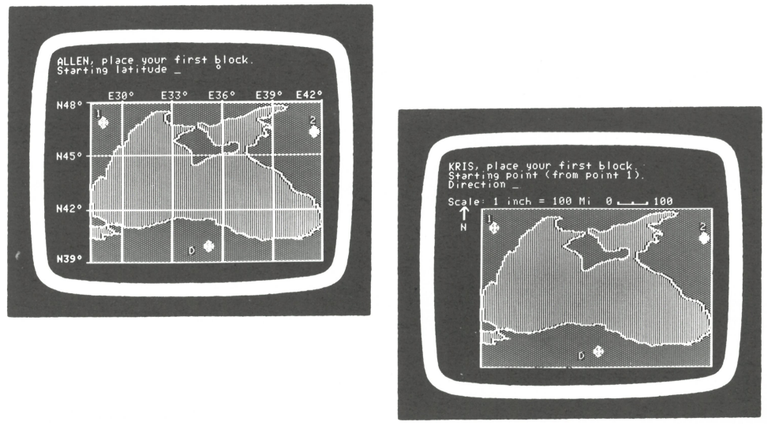

When the game begins, they must note the direction of North and the mileage scale, since these are randomly generated at the start of each game.

The object is to estimate and enter the quickest route to the destination, considering how the speed varies through different terrains, and given different modes of transportation. The player enters the direction he chooses to move, presses RETURN, enters the distance, and presses RETURN again. The computer then traces the route on the screen with a line. One playing of the game involves five terrain maps, each beginning where the previous one ended. A running count of travel time is displayed on the screen, and the student earns a percentage score based on the ideal time for each map. (See page 24 for ideal routes.)

In order for students to replay the game and "learn from past mistakes" they can keep track of the routes they travel and analyze them later. Worksheet #5 has been provided for this purpose. Given a photocopy of the sheet, students trace their routes as shown on the computer screen, noting direction and scale, along with times and scores earned. Analyzing their performance will let them improve their travel plans the next time they play the *All Terrain Game.*

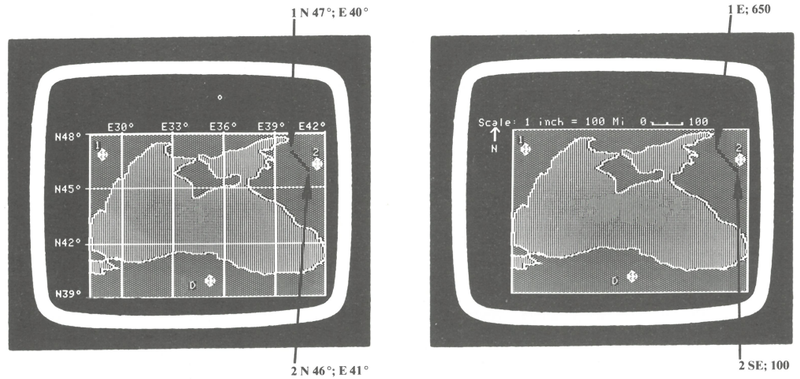
*Roadblock!* is designed for two players. The object is to prevent your opponent from reaching his desired destination by placing a "roadblock" in his way. After students enter their names, one of six area maps in memory is randomly generated and displayed on the screen. The area map will show either lines of latitude and longitude or the direction of North and a scale of miles. The map will show each student's starting place and a common destination. Students alternately place two roadblocks, each meant to keep the opponent from reaching the destination. (Students must avoid their own roadblocks as well as their opponent's.) Each roadblock's length is limited to 10% of the map's width. Student's who set up roadblocks exceeding this limit are prompted by the computer to try again.

Here are the typical screen displays, one map marked with latitude/longitude, one with distance/direction. The "1" indicates Player 1's location, "2" shows Player 2's location, and "D" is the common destination.




Suppose Player 1 decides to block Player 2 by placing either of the roadblocks shown here. Roadblocks are placed by identifying and entering the positions of their endpoints. The numbers on each map show the sequence of moves taken to place the block.






After alternately placing blocks, the players begin their journey to the destination. To progress toward the destination on the latitude/longitude map, a player enters the latitude and longitude of the point where he wishes to go. He can make his trip to the destination in one move if his opponent hasn't placed his roadblocks carefully. Otherwise he will make one or more intermediate moves to avoid his opponent's roadblocks. To move on the distance/direction map, he enters how far, and in what direction *from his present location* he will need to travel to reach the desired spot. Players alternate moves until one player is either blocked or reaches the destination. If both reach the destination, the winner is the one who made the trip in fewer moves. Players tie if they both reach the destination in the same number of moves.

## CORRELATING MAP SKILLS TO THE CURRICULUM

The primary goal of education is to apply in meaningful and relevant ways the knowledge one has gained. This requires that the student not only learn concepts but also recognize how these concepts relate to the situations he or she encounters in which those concepts may be of help. Repeated exposure to a variety of such situations facilitates the student's independent use and promotes mastery of that concept. Applications which the student finds personally relevant are most likely to result in this transfer of learning.

The ultimate purpose for teaching map skills is to aid the student in mastering any situation in which maps play a part. Using the common thread of map skills, each of the following games and projects draws upon one or more of the content areas and upon critical thinking skills to help students examine their world. These projects not only provide for the use of maps to show location, but they lead

students to examine natural and man-made changes in the face of the earth and encourage them to draw conclusions from the data they generate.

### Time Zone Tag

*Students will read and interpret longitudinal meridians to determine standard time zone differences around the world.*

Before play begins, students need to know that the world is divided into 24 time zones, longitudinally 15° apart, beginning at the International Date Line and ending at Greenwhich Royal Observatory in England. Traveling west from the Date Line, for every 15° passed they subtract an hour.

Time Zone Tag requires two teams who will race each other to the Royal Observatory. They begin at the same designated time and day. One team will head west to Greenwich, the other east. They advance by drawing slips of paper which contain the names of cities in their hemisphere. Students then must locate the city on a globe, and correctly compute the time in that city as compared with the time at their starting point. For each correct computation the team advances 1000 miles.

This activity correlates to Geography (locating cities on a world map,) Math (four basic operations, estimating, ratios,) and Map Reading (longitude.)

### History Timeline

*Students will interpret the changing contents of maps covering the same area, draw conclusions about those changes and project new data from the old.*

By conducting a study of maps from their own region of the country, students can see that physical and cultural changes are linked. This activity can be conducted in groups or on an individual basis.

Through regional history books, local museums, newspaper morgues, etc., students gain access to maps that depict their own region as it was 100 years ago. By comparing them with current maps of the same region, they can begin to note differences like: new roads, industry and population shifts, introduction of new structures, start-up of new towns, dying out of old towns, etc. Have students also take notes on significant historical events that happened in the last century.

When they have gathered data and noted changes, they are ready to make some predictions about the future. Have students design their own maps showing what they think might happen in the next century.

This activity correlates to History (regional history, research, chronology,) Critical Thinking (predicting, extrapolating,) and Map Reading (symbols and scale.)

### Made By Man

*Students will interpret map symbols and reinforce verbal expression skills.*

In a group discussion, introduce the idea that people have changed the face of the earth to make the planet better suited to human needs. As examples: *dams* are built to protect people from flooding rivers or to provide better distribution of water for cities and agricultural lands; *canals* are cut through land areas to connect waterways and reduce transport time from one area to another. Other examples of man-imposed changes are: *highways, bridges,* and *landfills.*



After students understand the concept of man-made changes, they are asked to choose a major industrialized country in the world, conduct the necessary research, and return to class with their own list of man-made changes in the country they've chosen. Students can create a map and legend to show locations of the man-made changes they've listed. They might also be asked to assess whether or not the changes have worked to improve the country.

This activity correlates to World and Regional History, Ecology, Map Reading and the Critical Thinking skill of evaluating.

### Connections

*Students will interpret spatial representations.*

Begin with a classroom explanation of the plate tectonics theory, which speculates that eons ago the large earth land masses were attached to one another.

Reproduce a general outline map showing the earth's land masses at about the Cretacious period in geologic history. Students cut out some scale outlines of current continents and try to fit the pieces, puzzle style, into the Cretacious map. Start them out by noting how the western coast of Africa fits the eastern coast of South America. Have students estimate how far each continent has moved; some may even want to compute how far per year. There are no definite answers here, so technically no wrong answers, but estimates should be reasonable, based on available evidence.

This activity correlates to Geography (plate tectonics, land masses,) Math (estimating, judging reasonable estimates,) Critical Thinking (comparisons, patterns, visual analysis,) and Map Reading (scale, latitude and longitude.)

### Make Your Own Maps

*Students will translate oral, written, or statistical information into symbolic representation.*

In addition to geographical data, maps can be used to show such things as changes over a period of time, routes taken by travelers, sequence of historical events, and points of interest. Many events in history may be represented on maps, as indeed they are in many textbooks. As students "map" historic events, they become more familiar with regional geography and more familiar with the events themselves.

Following is a list of suggestions for maps which students can make to accompany their studies. Students should begin to see the added value of textbooks, encyclopedias, almanacs, census books, and similar publications as they use them for research of this kind. The following section also offers ideas for maps which students should find personally interesting. For these maps, students draw their data from personal knowledge, family, friends, and current publications.

### They Went That-a-Way

World and American History offer an abundance of data that can be mapped: explorers' and other travelers' journeys, trade routes, transportation systems (railroads, wagon trains), communications networks (Pony Express, telegraph), just to name a few. Students might also study famous meetings (signing of the Bill of Rights, The Treaty of Versailles), to find out who attended, and use a map to show where each came from.

From the field of Science, students can map migratory routes (birds, whales), trace the travels of wandering herds (caribou, reindeer), or perhaps show sites of major earthquakes and volcanoes. Periods of time or seasons might be incorporated into the maps.

### Before and After

Sometimes population shifts occur rapidly as a result of a specific event (The Industrial Revolution) or as a more gradual change (from a rural to an urban society.) Two maps, or a short series of maps, can show this change and the time period involved. Different colors keyed into the map legend can show population densities.

Here are some suggestions: population shifts resulting from Westward expansion, The Gold Rush, The Alaska Gold Rush, contemporary shifts to the Southwest and Sunbelt, even shifts within the student's own state (city to city, within a city, city to rural area, etc.)

### A Day in the Life

Inset maps show detail of a specific area within a larger map. Students might draw a map of their own counties with their immediate neighborhoods shown in insets. They might also "map-out" their typical day's coming and going on the map and its inset.

Another map could show your school district, with the immediate area surrounding your school in the inset.



Students might initiate the map with verbal descriptions of boundaries, filling in the maps accordingly. They will find preplanning and considerations of scale to be of utmost importance here.

### Emergency!

It is convenient, sometimes vital, to know where to find help when you need it. Students can practice mapping skills by locating police stations, fire stations, hospitals, schools, and their own residences on a map of their city. The map can be marked to show quickest routes from school to hospital, home to hospital, fire station to home, etc.

### Fun Spots

Activities that use maps of the whole United States allow students to see how particular locations that interest them are placed individually, perhaps far apart, yet are tied together in a type of "network." Students can locate theme parks, zoos, world's fair sites, major sports arenas, department stores, numerous others of their own choice.

### On the Road Again

Students can use maps of regions of the United States to show the travel routes of their favorite sports teams, or concert tour of their favorite musicians. They might also estimate distance traveled, average distance between stops, and miles traveled per day.

### "Routes"

Maps can be used to show ancestral homelands and family wanderings from "then until now." Students interview parents and grandparents to begin to map their family's progress. Using different colors or map symbols, they can trace routes across time made by grandparents, parents, even themselves if applicable. Their maps can also highlight significant family events such as marriages, births, deaths, etc.

## ANSWERS TO WORKSHEET EXERCISES

**Worksheet 1**

*People and Places*

1. in school (2 hour time difference)
2. eating breakfast (2 hour time difference)
3. asleep in bed (3 hour time difference)

*Borders and Boundaries*

1. Kentucky
2. Alaska and Hawaii
3. Florida
4. Texas

*Map Language*

The tall *MOUNTAINS* were covered with cold, white *SNOW,* while in the *HILLS* below, *THUNDER AND LIGHTNING* rumbled and danced through an Indian *VILLAGE.*

**Worksheet 2**

*People and Places*

Any route the student chooses is acceptable. However, the answers should contain a route in either a southernly or easternly direction, NOT north or west; should make mention of the map elements according to the legend translation; and should include approximate distance for each leg of their journey.

*Borders and Boundaries*

1. a mountain range called the Alps
2. the Gobi Desert
3. a mountain range called the Pyrenees
4. the Danube River

*Bodies of Water*

1. Utah
2. Tennessee
3. Missouri
4. Maryland

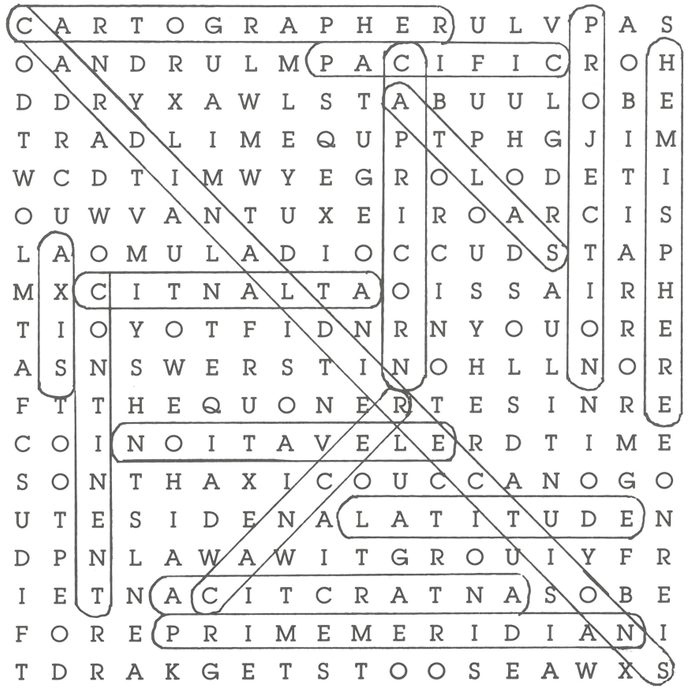
**Worksheet 3**

*People and Places*

A. heavy furs and parkas
B. drought
C. English
D. hot sunshine
E. mountain trails
F. Argentinians, South Americans, both



*Map Language*


C A R T O G R A P H E R U L V P A S
O A N D R U L M P A C I F I C R O H
D D R Y X A W L S T A B U U L O B E
T R A D L I M E Q U P T P H G J I M
W C D T I M W Y E G R O L O D E T I
O U W V A N T U X E I R O A R C I S
L A O M U L A D I O C C U D S T A P
M X C I T N A L T A O I S S A I R H
T I O Y O T F I D N R N Y O U O R E
A S N S W E R S T I N O H L L N O R
F T T H E Q U O N E R T E S I N R E
C O I N O I T A V E L E R D T I M E
S O N T H A X I C O U C C A N O G O
U T E S I D E N A L A T I T U D E N
D P N L A W A W I T G R O U I Y F R
I E T N A C I T C R A T N A S O B E
F O R E P R I M E M E R I D I A N I
T D R A K G E T S T O O S E A W X S

**Worksheet 4**

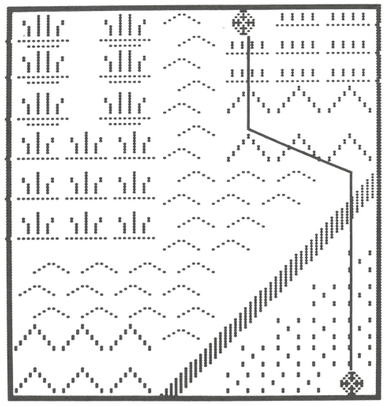
*World Neighbors*

1. I live in EGYPT.
2. My home is AUSTRALIA.
3. I live in GREENLAND.

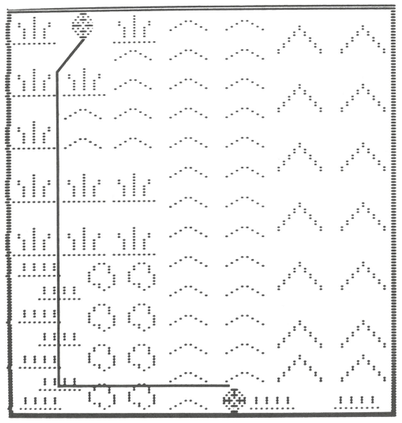
The student may describe his or her home in many acceptable ways, but the description should include generalities like North of the Equator and East of Africa. In choosing three major features of the student's region, any answer is acceptable as long as the feature can be found on a globe.

**All Terrain Game Ideal Routes**

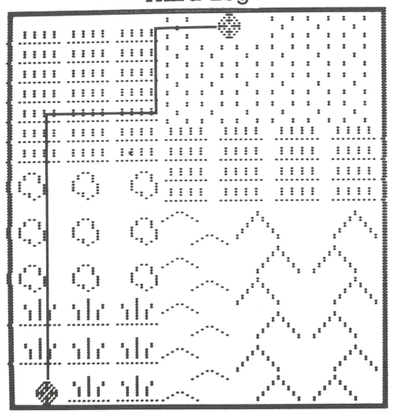
First Leg



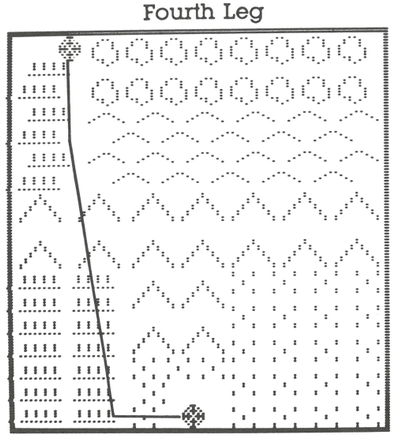
Second Leg



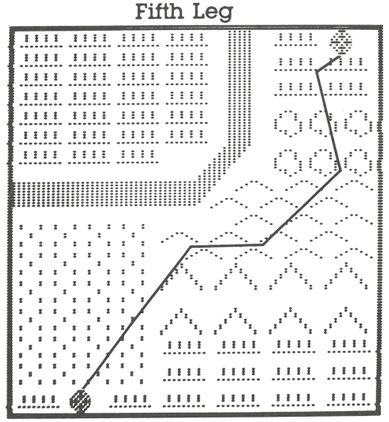
Third Leg



Fourth Leg



Fifth Leg





# THE LOADING PROCEDURE

Step 1—Insert disk into Drive 1
Step 2—Turn on the computer
Step 3—Turn on the monitor
Step 4—When directions indicate, type in student's name and push RETURN key—menu will appear

**Note:** Push RETURN key after every entry unless otherwise directed by the computer.

Notes

Notes

Notes

"The workhorse software for microcomputers"

Imperial International Learning Corp.

P.O. Box 548
Kankakee, IL 60901
815/933-7735